CLAIMS:

1. A woodworking machine comprising:

a rotatable blade having one or more teeth;

a detection system associated with the blade and configured to detect one or more dangerous conditions; and

a brake mechanism configured to stop the rotation of the blade if one of the dangerous conditions is detected, where the brake mechanism includes at least one brake pawl configured to pivot into the teeth of the blade.

2. The machine of claim 1, where the brake pawl is plastic.

3. The machine of claim 1, where the brake pawl is metal.

4. The machine of claim 1, where the brake pawl is aluminum.

5. The machine of claim 1, further comprising a spring configured to urge the brake pawl into the teeth of the blade, and where the brake pawl includes at least one engagement member adapted to be engaged by the spring to position the spring relative to the brake pawl.

6. The machine of claim 5, further comprising a restraining mechanism configured to releasably hold the brake pawl spaced-apart from the blade against the urging of the spring, and where the brake pawl includes a mounting structure for connecting the restraining mechanism to the brake pawl.

7. The machine of claim 6, where the mounting structure is spaced-apart from the engagement member.

8. The brake system of claim 1, wherein the brake mechanism is self locking against the blade upon contact with the teeth.

9. A woodworking machine comprising:

a cutting tool having one or more teeth;

a motor configured to drive the cutting tool;

a detection system adapted to detect one or more dangerous conditions between a person and the cutting tool; and

a brake mechanism including a brake pawl movable into contact with the cutting tool so that a tooth-engaging portion of the brake pawl binds against the teeth of the cutting tool to stop movement of the cutting tool when the detection system detects at least one of the dangerous conditions;

where the tooth-engaging portion of the brake pawl is formed of metal.

10. The machine of claim 9, where the one or more teeth are formed of a material having a lesser hardness than the tooth-engaging portion so that the tooth-engaging portion bites into the teeth.

11. The machine of claim 9, where the tooth-engaging portion is formed of aluminum.

12. The machine of claim 11, where the one or more teeth are formed of a material having a greater hardness than aluminum so that the teeth bite into the tooth-engaging portion when the tooth-engaging portion binds against the teeth.

13. A woodworking machine comprising:

a cutter adapted to cut a workpiece and including at least two cutting surfaces;

a contact detection system adapted to detect contact between a person and the cutter; and

a brake system adapted to stop the cutter upon detection of such contact by the contact detection system, where the brake system includes a metal pawl adapted to engage the cutting surfaces on the cutter.

14. The machine of claim 13, wherein the pawl is formed primarily of aluminum.

15. A woodworking machine, comprising:

a movable cutting tool for cutting workpieces;

at least one motor configured to drive the cutting tool;

a detection system configured to detect one or more dangerous conditions between a person and the cutting tool; and

a brake mechanism configured to stop movement of the cutting tool upon detection of one of the dangerous conditions by the detection system;

where the brake mechanism includes one or more metal braking components configured to move into contact with, and bind against, the cutting tool to stop movement of the cutting tool.

16. The machine of claim 15, where at least a portion of the cutting tool is formed of a first material, and where the braking components are formed of a second material having a greater hardness than the first material so that the braking components at least partially bite into the cutting tool during braking.

17. The machine of claim 15, where the braking components include one or more ridges adapted to at least partially bite into the cutting tool.

18. The machine of claim 15, where the cutting tool includes a pair of side surfaces adjacent a toothed edge, and where the braking components are configured to move into contact with, and bind against, at least one of the side surfaces.

19. The machine of claim 18, where the at least one side surface is formed of a first material, and where the braking components are formed of a second material having a greater hardness than the first material so that the braking components at least partially bite into the at least one side surface during braking.

20. A woodworking machine, comprising:

a movable cutting tool having one or more teeth;

a motor configured to drive the cutting tool;

a detection system configured to detect one or more dangerous conditions between a person and the cutting tool; and

a brake mechanism including at least one brake pawl configured to engage the cutting tool upon detection of one of the dangerous conditions by the detection system, and to pivot tightly into, and bind against, the teeth to stop the movement of the cutting tool.

21. The machine of claim 20, where the brake pawl is configured to be pulled into binding engagement with the cutting tool by the teeth of the cutting tool.

22. A woodworking machine, comprising:

a movable cutting tool;

a motor configured to drive the cutting tool;

a contact detection system configured to detect contact between a person and the cutting tool;

a movable brake component configured to stop movement of the cutting tool, where the brake component has a first region spaced-apart from a second region;

a biasing mechanism configured to engage the brake component at the first region and urge the brake component toward the cutting tool; and

a restraining mechanism configured to engage the brake component at the second region and hold the brake component away from the cutting tool until contact between a person and the cutting tool is detected by the contact detection system.

23. The machine of claim 22, where the brake pawl includes mounting structure proximate the second region for coupling the restraining mechanism to the brake pawl.

24. The machine of claim 22, where the brake pawl includes at least one engagement member proximate the first region and adapted to be engaged by the biasing mechanism to position the biasing mechanism relative to the brake pawl

25. The machine of claim 24, where the brake pawl includes mounting structure proximate the second region for coupling the restraining mechanism to the brake pawl.

26. The machine of claim 24, where the biasing mechanism includes a spring, and where the engagement member is configured to maintain an operational alignment between the brake pawl and the spring.